

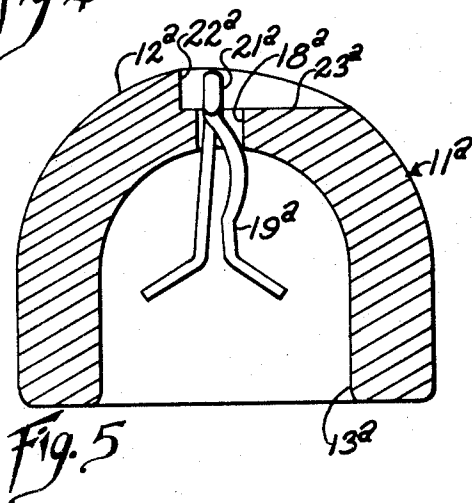
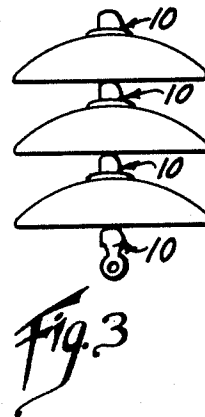
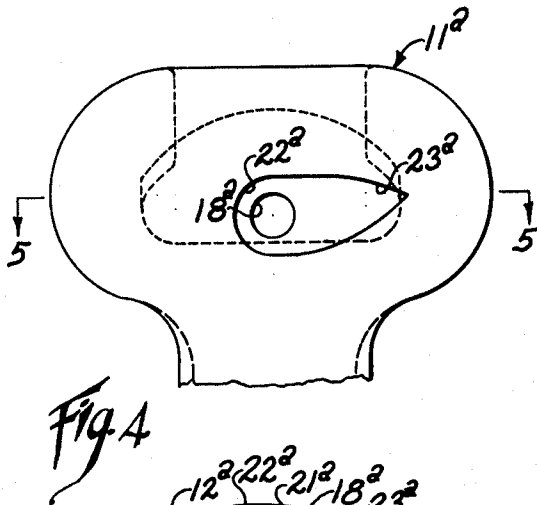
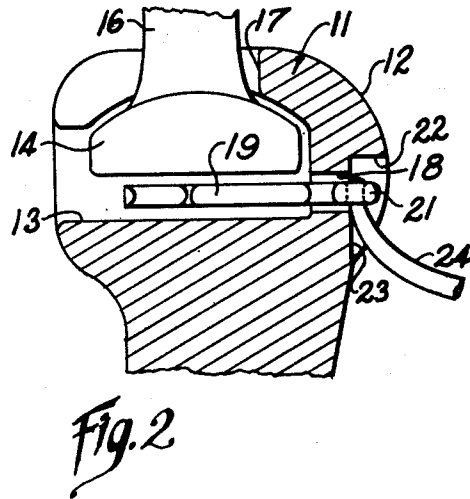
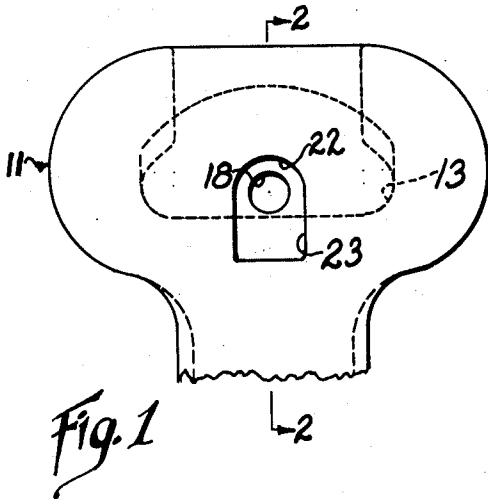
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3,141,925

ELECTRICAL SOCKET CONNECTOR FOR INSULATORS AND THE LIKE

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3,141,925

ELECTRICAL SOCKET CONNECTOR FOR INSULATORS AND THE LIKE

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This invention relates to an electrical fitting and more particularly to such a fitting which is provided with a socket portion adjacent one end thereof for receiving an enlarged portion of a connector member, the connector member being held against separation from the socket portion by a retaining member which extends through an opening in the socket portion.

An object of my invention is to provide an electrical fitting of the character designated in which the means for retaining the enlarged portion of the connector member against separation from the socket portion lies wholly within the confines of a curved outer surface for the socket portion whereby corona is eliminated without the necessity of providing shielding for corona suppression.

Another object of my invention is to provide an electrical fitting of the character designated in which the retaining means for holding the enlarged portion of the connector member in the socket portion is exposed at one side thereof for readily receiving a hot line hook on the end of a hot line stick whereby the retaining means may be withdrawn during hot line maintenance operations.

A still further object of my invention is to provide an electrical fitting of the character designated which is extremely simple of construction and operation and one which may be assembled and disassembled with a minimum of effort.

As is well known in the art to which my invention relates, it has been the usual practice to secure the enlarged portion of a connector member to a socket portion by inserting a locking key through an opening in the socket portion in position to hold the enlarged portion of the connector member against separation from the socket portion. The locking key has usually been in the form of a cotter pin having its eye portion projecting above the surface of the fitting so that the pin head is accessible for removal by a hot line stick. This projection of the locking key above the surface of the fitting to facilitate removal of the key causes corona unless the fitting is shielded.

To provide a corona-proof assembly and at the same time facilitate the removal of the locking means for the assembly, I provide an electrical fitting having a socket portion which is curved along one side thereof and is provided with an outwardly opening socket for receiving an enlarged portion of a connector member at another side thereof. A locking key extends through an opening in the curved outer surface of the socket portion and a laterally opening recess is provided in the curved surface of the socket portion in position to receive the outermost end of the locking key whereby the entire locking key is positioned within the confines of the curved outer surface of the socket portion.

Apparatus embodying features of my invention is illustrated in the accompanying drawing, forming a part of this application, in which:

FIG. 1 is an elevational view, partly broken away, showing the socket portion of my fitting;

FIG. 2 is a sectional view taken generally along the line 2-2 of FIG. 1;

FIG. 3 is an elevational view showing the electrical fitting in use;

FIG. 4 is an elevational view, partly broken away, showing a modified form of my invention; and,

FIG. 5 is a sectional view taken generally along the line 5-5 of FIG. 4.

Referring now to the drawing for a better understanding of my invention, I show an electrical fitting 10 having a socket portion 11 adjacent one end thereof. The socket portion 11 is provided with an outer curved surface 12 at one side thereof and an outwardly opening socket 13 at the other side thereof for receiving an enlarged portion 14 of a connector member indicated generally at 16. The socket portion 13 communicates with an outwardly opening recess 17 which extends at right angles to the socket portion 13, as shown in FIG. 2, in position to receive a reduced portion of the connector member 16. Accordingly, the enlarged portion 14 of the connector member 16 is adapted to be inserted in the socket 13 and is then pulled forward to the position shown in FIG. 2 whereby the curved inner surface of the socket portion 11 holds the enlarged portion 14 against separation from the socket portion.

To hold the enlarged portion 14 of the connector member 16 in the forward, locked position, a passageway 18 is provided in the curved surface 12 of the socket portion 11 for receiving a locking key 19. As shown in FIG. 2, the locking key 19 may be in the form of a cotter pin having an eye portion 21 at the outer end thereof. The legs of the locking key 19 extend between the enlarged portion 14 of the connector member 16 and the adjacent surface of the socket 13 whereby the connector member is held against separation from the socket portion 11 of the fitting 10.

To prevent the eye portion 21 from projecting outwardly of the curved surface 12, I provide a recess 22 around the outer portion of the opening 18, as shown in FIG. 2, for receiving the eye portion 21. Accordingly, the eye portion 21 lies wholly within the confines of the curved surface 12.

To facilitate removal of the locking key 19, I provide a laterally extending recess 23 which communicates with the recess 22 so as to expose a side of the eye portion 21. As shown in FIG. 2, the recess 23 extends generally perpendicular to passageway 18. The locking key is removed from the socket portion 11 by merely inserting a hot line hook 24 in the eye portion 21, as shown in FIG. 2. The eye portion 21 is thus in position to be readily removed by insertion of the hot line hook and at the same time is positioned beneath the curved surface 12 of the fitting to prevent corona.

In FIGS. 4 and 5 of the drawing, I show a slightly modified form of my invention in which a socket portion 11^a is provided with a curved surface 12^a and a socket 13^a for receiving an enlarged portion of a connector member, as described hereinabove. A passageway 18^a is provided in the curved surface 12^a for receiving a locking key 19^a. A recess 22^a is provided in the curved surface 12^a at the outer end of the opening 18^a in position to receive an eye portion 21^a of the locking key 19^a. A laterally extending recess 23^a communicates with the recess 22^a and extends generally perpendicular to opening 18^a whereby the eye portion 21^a of the locking key 19^a is exposed for easy removal. It will be noted that the passageway 23^a extends in a direction which is substantially normal to the direction at which the recess 23 extends. Also, the eye portion 21^a of the locking key 19^a may be twisted, as shown in FIG. 5, whereby the eye portion 21^a is in alignment with the recess 23^a for receiving a hot line hook, as described hereinabove. It will thus be seen that the laterally extending recess which communicates with the recess 22 may extend at various angular positions to facilitate removal of the locking key 19 or 19^a, as the case may be.

From the foregoing description, the operation of my improved apparatus will be readily understood. The enlarged portion 14 is inserted in the groove 13 or 13^a, as the case may be, and pulled forward whereby it engages the inner curved surface of the socket portion 11.

The locking key 19 or 19^a, as the case may be, is then inserted through the socket portion whereby the enlarged portion 14 is held against separation from the socket portion 11. To remove the locking key from the socket portion of the fitting, a hot line hook 24 is inserted in the laterally extending recess 23 or 23^a, as the case may be, into the eye portion of the locking member, as shown in FIG. 2.

From the foregoing, it will be seen that I have devised an improved electrical fitting which is provided with generally curved outer surfaces. By placing the outermost end of the locking key within the confines of the curved outer surface of the fitting, I provide a corona-proof assembly without the necessity of providing other shielding. Also, by providing a laterally extending recess which exposes the outermost side portion of the locking key, the locking key may be readily removed by merely inserting the hot line hook.

While I have shown my invention in two forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. In an electrical socket connector having a socket portion adjacent one end thereof with the outer surface of one side of said socket portion being curved and another side of said socket portion being provided with an outwardly opening socket for receiving an enlarged portion of a connector member and a retaining member extending through an opening in said curved outer surface into said socket portion in position to hold said connector member against separation from said socket portion, the improvement which comprises:

(a) there being a recess adjacent said opening in the socket portion of a size to receive the entire outer

portion of said retaining member whereby said outer portion lies wholly within the confines of said curved outer surface, and

(b) there being at least one laterally extending recess in said socket portion in communication with the first mentioned recess and extending generally perpendicular to said opening in position to expose a side of the outer portion of said retaining member to facilitate removal of said retaining member.

2. In an electrical socket connector having a socket portion adjacent one end thereof with the outer surface of one side of said socket portion being curved and another side of said socket portion being provided with an outwardly opening socket for receiving an enlarged portion of a connector member and a cotter pin extending through an opening in said curved outer surface into said socket portion in position to hold said connector member against separation from said socket portion, the improvement which comprises:

(a) there being a laterally opening recess adjacent said opening in the socket portion of a size to receive the entire eye portion of said cotter pin whereby said eye portion lies wholly within the confines of said curved outer surface, and

(b) said laterally opening recess extending generally perpendicular to said opening in position to expose a side of said eye portion to facilitate removal of said cotter pin.

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